

# HIFI CRITIC

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## DESIGNING OUT THE ROOM

The very complex and radical BeoLab 90 might well be a major step in room-proofing loudspeakers

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## REQUEST THE BEAST

An SSD audiophile server/DAC/pre-amp, conceived in the USA and built in Switzerland.

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## BOWERS & WILKINS 803 D3

Andrew Everard reports on an all-new model that joins a re-invented flagship speaker range

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## A NEW WORLD ORDER?

Julian Musgrave's polemic suggests that the very nature of change in high end audio has changed.

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## NAIM NAP 300 DR

Chris Binns tries one of Naim's recently revised power amplifiers

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## MUSIC & MORE

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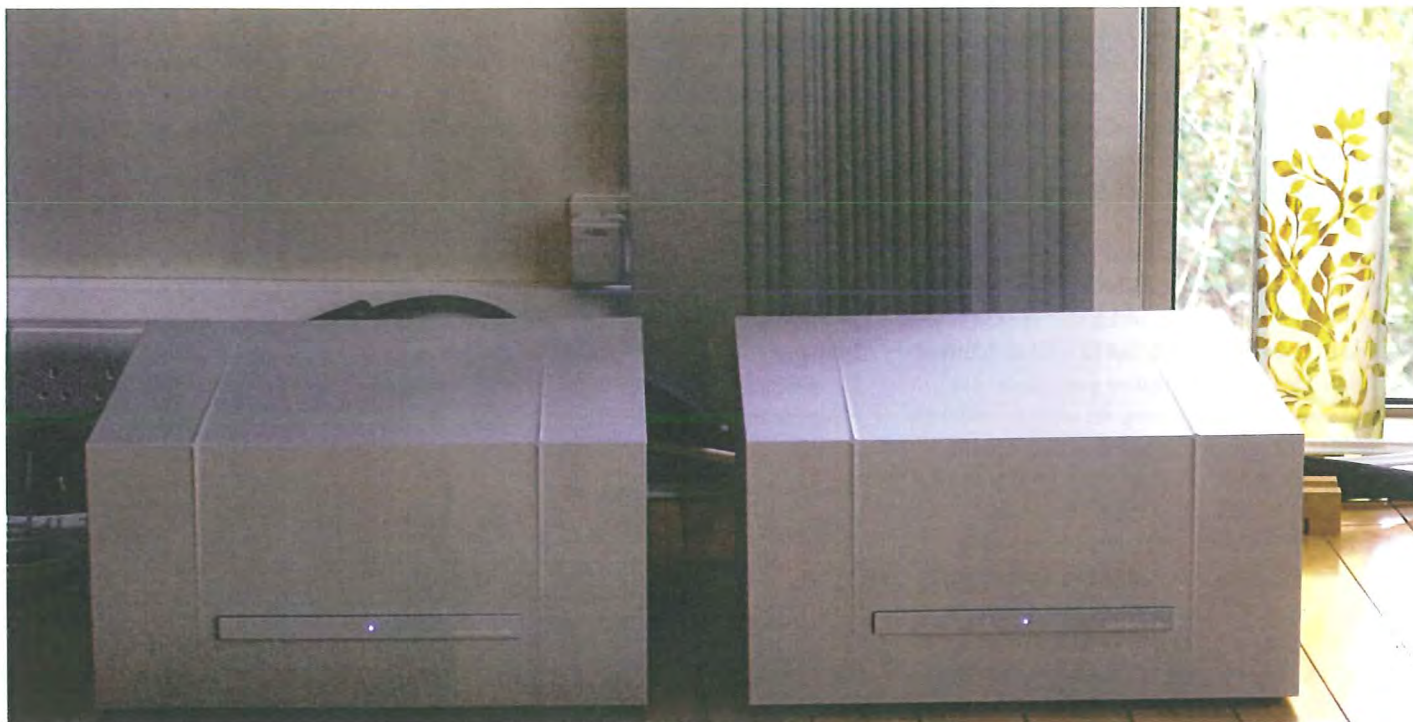
### REVIEWED THIS ISSUE

Metrum Pavane  
Audio Note Kegon Balanced  
ReQuest The Beast  
Neat Momentum SX3i  
Naim NAP 300 DR  
Bowers & Wilkins 803 D3  
Constellation Inspiration  
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# Constellation's Inspiration

CONSTELLATION'S INSPIRATION COMBO CONSISTS OF A PRE-AMP 1.0 AND TWO MONO 1.0 POWER AMPLIFIERS. MARTIN COLLOMS AND JOSE VICTOR HENRIQUES LISTEN TO IT



Constellation burst onto the high end amplifier scene a few years back, with some monster-priced and -sized amplification components which set new standards in their class for power and dynamic range, for stereo image scale and precision, and in particular for transparency. US critics raved over debut models such as the *Altair/Hercules Mono* pre-/power combination. And if it can be called downsizing, more recent examples included a *Centaur* power amp (available in mono and stereo versions), to go with a less costly *Virgo* pre-amplifier that's distinguished by a very low noise, high resolution optically coupled volume control (albeit one that's slightly slow in operation).

These examples have subsequently been followed at much lower prices by a complete integrated amplifier built into existing pre-amplifier casework, and also the *Inspiration* series. The latter comprises a new pre-amp called the *PreAmp 1.0* and two versions of the *Inspiration* power amp, the *Stereo 1.0* and the *Mono 1.0*.

I think that there's a 'magic' UK price point of £20,000 the pair, which the basic *Inspiration* pre-

amp plus stereo power amp combo achieves. The *Inspiration* stereo power amp is conservatively rated 200W + 200W (and this is doubled to a nominal 400W + 400W in the mono version). Whatever, the *Inspiration* amplifiers are definitely a very threatening cat amongst the high end amplifier pigeons; we shall just have to see whether they're all too good to be true.

## Constellation Background

Initially apparently coming out of nowhere, Constellation was essentially created from scratch by two Australian entrepreneurs, Murali Murugasu and David Payes, who effectively repeated their involvement in the Australasian creation of the reference standard Continuum LP player (*HIFICRITIC Vol4 No2*) by choosing California for the new amplifier company.

The operation started up rapidly, by assembling a 'dream team' of highly experienced electronics designers who agreed to work together on the flagship amplifier proposition. They included Peter Madnick (founder of Audio Alchemy) as overall

MARTIN COLLOMS  
JOSE VICTOR HENRIQUES

project leader, along with Bascombe King, John Curl, Damien Martin, and John Bongiorno (sadly now deceased). These accomplished designers had many successful audio products behind them, some at the highest quality level.

The initial outcome was a highly regarded \$200,000 pre-amp and mono power amplifier combination, which immediately received substantial acclaim. More recently has seen the introduction of a phono pre-amplifier and a digital audio player. Furthermore, those *Altair* and *Hercules* launch products of 6 years ago were now in *MkII* guise, and were then joined at almost half price by the pre-/power - at around £80,000 the pair (as used in our Wilson Audio *Sasha 2* review, in *HIFICRITIC Vol8 No2*), and now by the arrival of the three *Inspiration* models at around £10,000 each – almost budget price by audiophile standards. The *Inspiration* pre-amp actually costs £19,000 with the stereo power amp, and £29,000 with two mono power amps.

Incidentally, the *Inspirations* also include a feature whereby an input stage of the power amp may be bypassed, the amplifier driven after the input stage instead in 'direct' mode with a higher pre-amp output signal voltage.

### Sound Quality

I spent a month or two running in the pre-amp in time for the last issue, as the matching power amps had been significantly delayed. They finally arrived just in time for this issue, allowing at most a week's running in from new before delivery.

More was clearly required, because even after that pre-delivery warming up, on first installation in my system the *Inspiration* power amps and the (recently little used) Transparent cable set showed a remarkably distinct character and coloration. This was made all the more obvious as this potentially high quality system rapidly improved even after an hour or so of use.

At first it had shown a dry two-dimensionality, with a distinct grey-brown veiling over the soundstage. Although it sounded powerful and punchy with decent focus, the system lacked depth and reverberant die away. Indeed, had we lacked patience we might have prematurely begun to retune the system. Yet within an hour or two of playing the clouding had all but cleared away and a quite exceptionally powerful and transparent system with a deep and precisely focused soundstage was revealed. Such running in can be quite dramatic, especially when the aiming point is high, as it so clearly is for these examples.

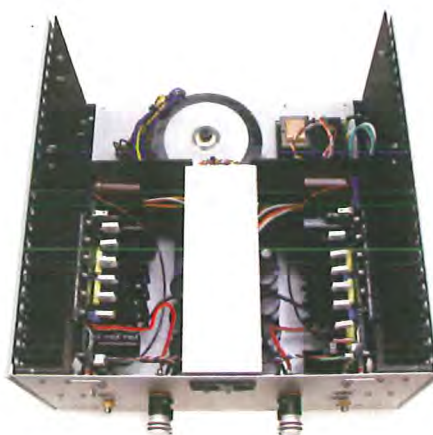
As matters settled down we were clearly left

with a very well matched, very competent and very powerful pre-/power amplifier combination. Independently of the power amps, the *Inspiration* pre-amp also performed very well in single-ended (SE)-to-balanced, balanced-to-SE, and SE-to-SE modes, which provides useful flexibility when various different input and load possibilities are considered.

The bass of this combination went deep with immense authority, grand tune playing and a notably taut and visceral impact from larger drums. Another distinction was the stable sound quality regardless of loudness, remaining quite unstrained at massive sound levels. And yes, an extra degree of image precision and clarity of maybe 10% was achievable when using the special 'direct' pre-to-power connection.

Whether driven singled-ended (for example from vinyl *via* a Naim *SuperLine*, or streamed audio from an *NDS*), or in balanced mode from *The Beast* server/DAC, the sound here was first class, finely detailed, sparkling, expressive and involving. While unmistakably true high end, it did show a slight tinge of brightness, which suited my Magico *S5* loudspeakers really well. (Very small adjustments to loudspeaker toe in and placement will compensate for this timbre shift if need be.)

The system timed well, delivering solid rhythms and very fine musical expression. And it seems to be true that Constellation is delivering a very large helping of its high end sound with these competitively priced components. The pre-amp and power amps are virtually as good as each other, so may happily be used in alternative combinations independently. It's hard to differentiate between them, but I'd estimate that my best sound quality score is 240 for the pre-amplifier and 275 for the mono power amplifier. Yes, they really are that good.



## Review System Components

Naim *NAC/NAP S1 Statement*, Constellation *Virgo III*, Constellation *Centaur II*, Townshend *Allegri*, Vitus *SIA-025*, Naim *NAP300DR* amplification. Naim *UnitiServe*, ReQuest Audio *The Beast 2TB*, Naim *NDS/555PS (DR)* sources. Magico *S-5*, Neat *Momentum SX3i*, Quad *ESL63*, BBC *LS3/5a* loudspeakers. Naim *FRAIM* racks; Transparent *MM2* and Naim *NAC A5* speaker cables, Naim *Super Lumina*, Transparent *MM2* and Van Den Hul *Carbon* interconnects.

## Conclusions

'Greatly impressed' describes my reaction to both of these components, either used together or in isolation. The power amplifier is exceptionally powerful and also highly musical, while the pre-amplifier works excellently in all modes and has fine musicality and superior connectivity. Highly transparent and neutral with a fine sense of energy and flow, they are musically entertaining and deliver exceptional stereo images that are deep, wide and superbly resolved. Highly recommended, these units handsomely achieve our Audio Excellence target, and are also sufficiently good audiophile value to meet a Best Buy criterion too.

## Lab Results

### Power Amplifier

FET bridged outputs or not, the *Inspiration MONO 1.0* is a seriously lusty power amplifier delivering continuous outputs of 600W and 980W for 8 and 4ohms respectively, with short term burst power outputs of 700, 1200, and 1650W into 8, 4 and 2ohms respectively – figures that are not much less than that recorded by the much more costly Naim *Statement NAP S1*.

Input sensitivity is a sensible 156mV for 1W in balanced drive mode, and internal grounding is very well executed. Distortion is very low: typical results include a very low -98dB for the 19/20kHz, 100W/8ohms intermodulation. With a 500kHz bandwidth, the 100W, 1kHz distortion reads an excellent 0.03% when limited to the audio band (say 50kHz). If the measurement bandwidth is increased to 500kHz it then reads 0.25%.

And I did note mild bursts of high frequency instability at the crossover point above about 50W; these do not numerically affect audio band distortion one whit, but may be seen on the oscilloscope when in wideband distortion view. Yet the high frequency intermodulation distortion itself was an excellent -98dB.

I also found a minor anomaly in the frequency response. While very flat towards high frequencies (-0.5dB at 82kHz and an amazing -3dB at 210kHz), low frequencies were rolled off a little, registering -0.5dB by 50Hz and what in my view might be a just perceptible -3dB at 18Hz, leading to -6dB at 10Hz. This could slightly alter the sounds of bass transients if using large loudspeakers with well extended bass.

Output impedance is negligible – less than 0.04ohms 20Hz - 20kHz. Input sensitivity is 156mV for 1W output, while 4V *via* the standard balanced input takes it to full power. Note that the gain is about 12dB less in 'direct' mode, so

under these circumstances it will ideally require a correspondingly higher output from the matching pre-amp, for example 600mV for 1W and about 16V for the maximum 600W output. Towards this highest music peak level the pre-amp enters a slightly higher distortion region, but this is reckoned to be inaudible in practice.

### Pre-amplifier

The *Inspiration PREAMP 1.0* measured superbly with an extremely wide, low phase shift frequency response, better than +0.0dB, -0.1dB 0.5Hz to 110kHz (-3dB at 200kHz). Input overload occurred at a little above 10V in all modes, while the pre-amp could typically deliver 13.8V, 0.08% at the output before distortion slowly rose to 0.5% at a massive 20V, composed of low order harmonics and therefore judged insignificant.

High frequency intermodulation, even for single-ended operation, was well down at 0.007%, and this figure was also valid for sine waves, 20Hz-20kHz. At IHF 0.5V input levels, distortion was negligible at all frequencies; available gain was a standard 26.4dB. Hum was close to immeasurable throughout the test modes, while the mains transformers were also very quiet physically.

This stereo pre-amp has immense isolation between channels: 124dB at 1kHz, 145dB at 10Hz, and still 107dB at 20kHz. Channel balance was first rate, as was volume tracking throughout the very wide control range, along with very accurate 0.5dB steps. Noise was a low -92dB IHF, and output impedance was also quite low (close to 200ohms per phase). High frequency intermodulation was an excellent -84dB, even in single-ended mode, and its performance was singularly unaffected by loading variations at the output.

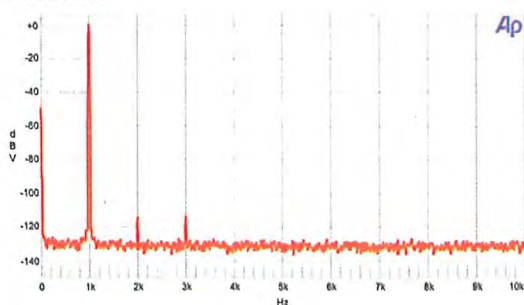
## Technology

The *Inspiration PREAMP 1.0* is wholly balanced throughout, executed with FET amplification, alongside a solid state polysilicon 0.5dB high resolution, non-microphonic, 180-step, opto-coupled volume control. It also offers channel balance and absolute phase invert and has 3 XLR and 3 RCA inputs. It is built double mono, even with separate, costly 'R' core mains transformers fitted for each channel. There are doubled XLR and RCA outputs too, and the whole is built of machined alloy plates. The circuit boards are mechanically decoupled to control microphony, while the large display is a user-programmable monochrome LCD panel with adjustable brightness.

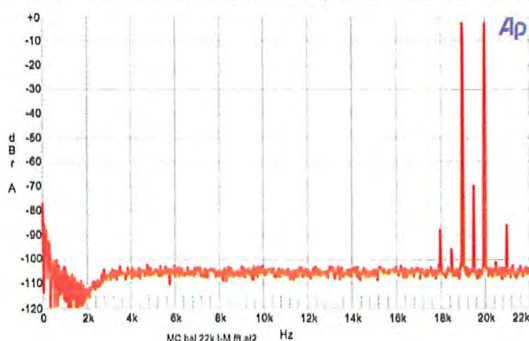


Similarly, the MONO 1.0 power amp has a fully balanced, differential input using FETs, with switchable RCA/phono and XLR connections. Note that the output is 'balanced bridge', operating the company's proprietary multiple FET modular amplifier stages in parallel, using optimal N-type devices, and the circuitry does not require a Zobel network. Power comes from a massive shielded toroidal transformer, with a truly generous array of paralleled reservoir capacitors totalling 240,000uF – no wonder close on a kilowatt of power can be drawn from each channel.

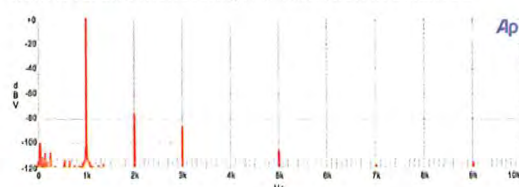
Constellation power 1.0 1W distortion 8ohm, low order harmonics



Constellation Mono I-M distortion spectrom bal 10W 8ohm



Inspiration Pre Harmonic Distortion IHF 0.5 V (note low hum level and monotonic, low distortion in Balanced



## José Victor Henriques' Second Opinion

Martin Colloms asked me to supply a second opinion, knowing beforehand what I think of the marvellous Constellation combo, since I'd had the pleasure of reviewing it elsewhere.

The *Inspiration PREAMP/STEREO 1.0* reproduces the full audio spectrum with 'freedom' (unhindered dynamics), 'equality' (no emphasis whatsoever) and 'fraternity' (pace, rhythm and timing). In that sense it is a democratic revolution in the world of audio, since it comes surprisingly close to the more costly *Performance Series*, although it does not reach the heights of the mighty *Altair/Hercules II* lacking the *gravitas* that emanates from intrinsic power.

The *Inspiration* combo also trades in some of the *Virgo III/Centaur II* combination soundstage amplitude and resolution for a more articulate and authoritative bass. But I was amazed to find out that both share the same perfect instrument time and space relationships, and also the uncanny presence of voices that may sound suave or dynamic, happy or poignant, and filled with pathos and emotion. This amplification incorporates the endearing greatness of harmonic soul, with magnificently transparent atmosphere and splendid ambient acoustics. The clear audibility of ambience clues free the brain to concentrate on the music, all with a taste of vacuum tube technology musicality but here allied to the power and dynamics of solid state, in an exhilarating and rare combination of acoustic elements that conforms to my strict conception of the high end.

I am well aware of how 'pace and rhythm' plays an important role in Martin's evaluation. At the time of writing I don't know anything about his findings. Even if he eventually finds the *Inspiration* combo is not up there with the best of the breed in this particular performance issue, maybe by just a notch, for me the fact that 'it has got that swing' is undeniable. Not just the dynamic swing that it has in spades, but also that 'something else that makes a tune complete'.

As Louis Armstrong used to sing:  
*"What good is melody, what good is music  
 Just give that rhythm everything you got  
 Yes, it don't mean a thing, if it ain't got that swing"*

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### Specifications

#### Constellation Inspiration MONO 1.0 Mono Power Amplifier

Rated Power	400W 8ohms, 800W 4ohms
THD typical	Better than 0.05%, S/N >95dBA
Gain normal / direct	26dB/14dB
Input impedance	RCA:10kohm, bal: 20kohm
Weight	36.3kg, 80lb
Size (WxHxD)	43.2x21.6x48.3cm
Price	£10,000 each

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#### Constellation Inspiration PREAMP 1.0 Pre-amplifier

Outputs	2xXLR 2xRCA, 50ohms impedance
Inputs	3xXLR (20kohms) 3xRCA (10kohms)
THD	<0.001% 20-20kHz @ 2V out
Output impedance	<50ohms
Volume control resolution	180 steps of 0.5dB
Frequency Response	10Hz-100kHz ±0.5dB
Signal-to-Noise ratio	Better than 105dBA
Size (WxHxD)	43.2x13.3x38.1cm
Weight	13kg, 25lb
Price	£9,000